

## (57) ABSTRACT

Method of controlling a voltage controlled PWM (Pulse Width Modulated) frequency converter comprising a single phase rectifier bridge (10) connectable to a sinusoidal single phase supply, a DC intermediate circuit (11) and a controlled inverter bridge (12) for generating an AC output voltage with varying amplitude and frequency to a load, said inverter bridge (12) having PWM controlled semiconductor switches (V11-V16) and flywheel diodes (D11-D16) connected in inverse-parallel with the semiconductor switches, wherein the DC intermediate circuit (11) is provided with a DC capacitor unit, and wherein the frequency converter is controlled so that the supply line current ( $I_{in}$ ) is essentially sinusoidal and in phase with the supply line voltage ( $U_{in}$ ). The inverter bridge is controlled so that the curve of filtered average current ( $I_{dc}$ ) in the DC intermediate circuit follows essentially the curve of the rectified AC supply voltage ( $U_{dc}$ ), the rectifier bridge is (10) connected to the inverter bridge (12) directly without a DC capacitor unit acting as an intermediate energy storage, and the curve of the power fed to the load has essentially the form  $\sin^2(2 \pi f t)$  ( $f$  = line frequency  $t$  = time).

Fig. 4a